

## Advanced Placement and First Year College Outcomes

This research looked at the relationships between Advanced Placement (AP) participation in high school and remediation rates, GPA, and credit hours received in the first year of college.

The Arkansas Research Center (ARC) examined 13,030 2009 Arkansas high school graduates that were freshmen in an Arkansas college during the fall semester of 2009. AP participation was determined by whether a student had taken an AP exam sometime during high school. Since the exam is free for these students and required for weighted credit (a grade of "A" would be equal to 5 points instead of 4 for a course not weighted), it is our assumption that the majority of AP students do take the AP exam. Of the 13,030 graduates of 2009 enrolled in an Arkansas college by fall 2009, 53% did not take AP courses during high school while the remaining 47% did. We also examined what kind of AP class was taken, specifically, if the student took a math, science, or English AP course.

### AP Analysis:

A comparison of students who took AP courses and those who did not shows that students who took AP courses achieved more credit hours in their freshman year (28.57 credits achieved by students who took AP courses compared to 17.68 credit hours by students who did not take AP courses). Students who took AP courses also had a higher GPA than their non-AP peers in their first year (2.84 compared to 2.19). Also, students who took AP courses had a much lower rate of remediation (28.04 compared to 64.2).

**Table 1: Students who took AP courses compared to those who did not**

	Credit Hours Achieved	First Year College GPA	Remediation
Non-AP	17.68	2.19	64.2%
AP	28.57	2.84	28.04%

### Proficiency Analysis:

Of the students who took AP courses, those that were proficient (a score of 3 or better) on the AP exam obtained more credit hours, had a higher first year college GPA, and had lower remediation rates compare to those not proficient in AP courses (see Table 2). It is important to note that students who were proficient in an AP course, any AP course, achieved nearly double the credits hours than students who took no AP courses. Students who took AP courses and were not proficient outperformed their non-AP peers as well.

**Table 2: AP Proficiency**

	Credit Hours Achieved	First Year College GPA	Remediation
Non-AP	17.68	2.19	64.2%
AP Not Proficient	27.46	2.72	33.02%
AP Proficient	31.84	3.19	13.47%

### Math/Science/English Analysis:

We also looked at college outcomes for students that took a math, science, or English (MSE) AP course, compared to students that took other AP course(s). These MSE AP students achieved more credit hours, had higher GPAs, and lower remediation rates compared to students that took non-MSE AP courses (see Table 3).

**Table 3: MSE**

	Credit Hours Achieved	First Year College GPA	Remediation
AP Non-MSE	25.17	2.60	37.58%
AP MSE	29.34	2.89	25.87%

Remediation Analysis:

According to ADHE, Arkansas public colleges and universities expended \$84.6 million on remedial education during 2009-2010<sup>1</sup>. For Arkansas graduates in 2009, the remediation rate for those entering college in fall 2009 was 47.3% (see Table 4). Of those that did not participate in any AP courses, 64.2% required remediation. The remediation rate for those participating in AP courses was 28%.

For students that took AP courses that were not MSE, 37.6% required remediation. Of these students, if they were not proficient on the AP exam the remediation rate was 40.2%, while those that were proficient had a remediation rate of 24.6%. For students that took an AP course in one of the MSE subjects, 25.9% required remediation. Of these students, if they were not proficient on the MSE AP exam the remediation rate was 30.4%, while those that were proficient had a remediation rate of 11.5%.

**Table 4: Remediation**

	% of Student Requiring Remediation
<b>AR Entering Freshmen 2009</b>	47.3%
Non-AP	64.2%
AP	28.0%
<b>AP Non-MSE Exam</b>	37.6%
AP Non-MSE Not Proficient	40.2%
AP Non-MSE Proficient	24.6%
<b>AP MSE Exam</b>	25.9%
MSE Exam Not Proficient	30.4%
MSE Exam Proficient	11.5%

<sup>1</sup> Uniform Reporting of Educational and General Revenues, Expenditures, And Academic Productivity - <http://www.arkleg.state.ar.us/Education/HigherEd/ADHE/2010%20Higher%20Ed%20Cost%20Accounting.pdf>

Higher Ed intent declared as Bachelor's Degree											
2004 HS Grads - Overall Higher Ed results											
ACTBin	Overall	NoDegree	Certificate	AA	Bach	OnTimeBach	NoDegree	Certificate	AA	Bach	OnTimeBach
	5224	2987	110	304	1823	1481	57.2%	2.1%	5.8%	34.9%	28.3%
15-16	1	0	0	1	0	0	0.0%	0.0%	100.0%	0.0%	0.0%
17-18	9	7	0	0	2	2	77.8%	0.0%	0.0%	22.2%	22.2%
19-20	131	49	3	11	68	56	37.4%	2.3%	8.4%	51.9%	42.7%
21-22	725	260	9	48	408	331	35.9%	1.2%	6.6%	56.3%	45.7%
23-24	1116	340	8	58	710	588	30.5%	0.7%	5.2%	63.6%	52.7%
25-26	1041	273	12	51	705	593	26.2%	1.2%	4.9%	67.7%	57.0%
27-29	1027	214	7	31	775	660	20.8%	0.7%	3.0%	75.5%	64.3%
30-32	378	63	3	8	304	254	16.7%	0.8%	2.1%	80.4%	67.2%
33-36	80	5	0	0	75	70	6.3%	0.0%	0.0%	93.8%	87.5%
TOTAL	9732	4198	152	512	4870	4035	43.1%	1.6%	5.3%	50.0%	41.5%
2004 HS Grads - No AP											
ACTBin	Overall	NoDegree	Certificate	AA	Bach	OnTimeBach	NoDegree	Certificate	AA	Bach	OnTimeBach
	4819	2846	109	388	1585	1282	59.1%	2.3%	8.1%	32.9%	26.6%
15-16	1	0	0	1	0	0	0.0%	0.0%	100.0%	0.0%	0.0%
17-18	8	7	0	0	1	1	87.5%	0.0%	0.0%	12.5%	12.5%
19-20	121	46	2	13	62	50	38.0%	1.7%	10.7%	51.2%	41.3%
21-22	621	230	7	52	339	272	37.0%	1.1%	8.4%	54.6%	43.8%
23-24	868	275	5	57	536	440	31.7%	0.6%	6.6%	61.8%	50.7%
25-26	688	194	7	49	445	370	28.2%	1.0%	7.1%	64.7%	53.8%
27-29	593	143	6	26	424	362	24.1%	1.0%	4.4%	71.5%	61.0%
30-32	118	26	1	4	88	76	22.0%	0.8%	3.4%	74.6%	64.4%
33-36	14	0	0	0	14	14	0.0%	0.0%	0.0%	100.0%	100.0%
TOTAL	7851	3767	137	590	3494	2867	48.0%	1.7%	7.5%	44.5%	36.5%
2004 HS Grads - AP Participant, Not Proficient											
ACTBin	Overall	NoDegree	Certificate	AA	Bach	OnTimeBach	NoDegree	Certificate	AA	Bach	OnTimeBach
	314	112	1	18	184	153	35.7%	0.3%	5.7%	58.6%	48.7%
17-18	1	0	0	0	1	1	0.0%	0.0%	0.0%	100.0%	100.0%
19-20	10	3	1	1	6	6	30.0%	10.0%	10.0%	60.0%	60.0%
21-22	83	24	2	4	55	48	28.9%	2.4%	4.8%	66.3%	57.8%
23-24	163	49	2	7	107	92	30.1%	1.2%	4.3%	65.6%	56.4%
25-26	170	48	2	4	118	97	28.2%	1.2%	2.4%	69.4%	57.1%
27-29	143	31	1	6	106	93	21.7%	0.7%	4.2%	74.1%	65.0%
30-32	24	5	1	2	17	14	20.8%	4.2%	8.3%	70.8%	58.3%
33-36	3	0	0	0	3	3	0.0%	0.0%	0.0%	100.0%	100.0%
TOTAL	911	272	10	42	597	507	29.9%	1.1%	4.6%	65.5%	55.7%
2004 HS Grads - AP Proficient											
ACTBin	Overall	NoDegree	Certificate	AA	Bach	OnTimeBach	NoDegree	Certificate	AA	Bach	OnTimeBach
	91	29	0	8	54	46	31.9%	0.0%	8.8%	59.3%	50.5%
21-22	21	6	0	1	14	11	28.6%	0.0%	4.8%	66.7%	52.4%
23-24	85	16	1	2	67	56	18.8%	1.2%	2.4%	78.8%	65.9%
25-26	183	31	3	10	142	126	16.9%	1.6%	5.5%	77.6%	68.9%
27-29	291	40	0	6	245	205	13.7%	0.0%	2.1%	84.2%	70.4%
30-32	236	32	1	5	199	164	13.6%	0.4%	2.1%	84.3%	69.5%
33-36	63	5	0	0	58	53	7.9%	0.0%	0.0%	92.1%	84.1%
TOTAL	970	159	5	32	779	661	16.4%	0.5%	3.3%	80.3%	68.1%

Higher Ed intent declared as Bachelor's Degree												
2005 HS Grads - Overall Higher Ed results												
ACTBin	Overall	NoDegree	Certificate	AA	Bach	OnTimeBach	NoDegree	Certificate	AA	Bach	OnTimeBach	
	5326	3247	109	301	1668	1632	61.0%	2.0%	5.7%	31.3%	30.6%	
01-14	3	3	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%	
15-16	1	1	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%	
17-18	5	4	0	1	0	0	80.0%	0.0%	20.0%	0.0%	0.0%	
19-20	131	65	5	10	51	50	49.6%	3.8%	7.6%	38.9%	38.2%	
21-22	744	287	14	54	389	387	38.6%	1.9%	7.3%	52.3%	52.0%	
23-24	1094	396	14	63	621	613	36.2%	1.3%	5.8%	56.8%	56.0%	
25-26	1015	291	8	50	666	657	28.7%	0.8%	4.9%	65.6%	64.7%	
27-29	986	238	6	35	707	698	24.1%	0.6%	3.5%	71.7%	70.8%	
30-32	389	58	0	17	314	303	14.9%	0.0%	4.4%	80.7%	77.9%	
33-36	80	12	0	0	68	65	15.0%	0.0%	0.0%	85.0%	81.3%	
TOTAL	9774	4602	156	531	4484	4405	47.1%	1.6%	5.4%	45.9%	45.1%	
2005 HS Grads - No AP												
ACTBin	Overall	NoDegree	Certificate	AA	Bach	OnTimeBach	NoDegree	Certificate	AA	Bach	OnTimeBach	
	4018	2638	90	313	1067	1041	65.7%	2.2%	7.8%	26.6%	25.9%	
01-14	3	3	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%	
15-16	1	1	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%	
17-18	4	4	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%	
19-20	90	45	5	12	33	32	50.0%	5.6%	13.3%	36.7%	35.6%	
21-22	419	178	10	40	201	201	42.5%	2.4%	9.5%	48.0%	48.0%	
23-24	448	188	7	36	224	222	42.0%	1.6%	8.0%	50.0%	49.6%	
25-26	318	114	4	21	183	180	35.8%	1.3%	6.6%	57.5%	56.6%	
27-29	212	77	2	8	127	126	36.3%	0.9%	3.8%	59.9%	59.4%	
30-32	49	10	0	3	36	35	20.4%	0.0%	6.1%	73.5%	71.4%	
33-36	4	1	0	0	3	2	25.0%	0.0%	0.0%	75.0%	50.0%	
TOTAL	5566	3259	118	433	1874	1839	58.6%	2.1%	7.8%	33.7%	33.0%	
2005 HS Grads - AP Participant, Not Proficient												
ACTBin	Overall	NoDegree	Certificate	AA	Bach	OnTimeBach	NoDegree	Certificate	AA	Bach	OnTimeBach	
	1195	570	19	93	532	523	47.7%	1.6%	7.8%	44.5%	43.8%	
17-18	1	0	0	1	0	0	0.0%	0.0%	100.0%	0.0%	0.0%	
19-20	39	20	0	3	16	16	51.3%	0.0%	7.7%	41.0%	41.0%	
21-22	283	94	3	22	167	165	33.2%	1.1%	7.8%	59.0%	58.3%	
23-24	501	166	7	37	298	292	33.1%	1.4%	7.4%	59.5%	58.3%	
25-26	411	105	4	27	279	276	25.5%	1.0%	6.6%	67.9%	67.2%	
27-29	299	66	2	14	219	218	22.1%	0.7%	4.7%	73.2%	72.9%	
30-32	45	11	0	5	29	28	24.4%	0.0%	11.1%	64.4%	62.2%	
33-36	2	2	0	0	0	0	100.0%	0.0%	0.0%	0.0%	0.0%	
TOTAL	2776	1034	35	202	1540	1518	37.2%	1.3%	7.3%	55.5%	54.7%	
2005 HS Grads - AP Proficient												
ACTBin	Overall	NoDegree	Certificate	AA	Bach	OnTimeBach	NoDegree	Certificate	AA	Bach	OnTimeBach	
	113	39	0	5	69	68	34.5%	0.0%	4.4%	61.1%	60.2%	
19-20	2	0	0	0	2	2	0.0%	0.0%	0.0%	100.0%	100.0%	
21-22	42	15	1	6	21	21	35.7%	2.4%	14.3%	50.0%	50.0%	
23-24	145	42	0	4	99	99	29.0%	0.0%	2.8%	68.3%	68.3%	
25-26	286	72	0	10	204	201	25.2%	0.0%	3.5%	71.3%	70.3%	
27-29	475	95	2	19	361	354	20.0%	0.4%	4.0%	76.0%	74.5%	
30-32	295	37	0	9	249	240	12.5%	0.0%	3.1%	84.4%	81.4%	
33-36	74	9	0	0	65	63	12.2%	0.0%	0.0%	87.8%	85.1%	
TOTAL	1432	309	3	53	1070	1048	21.6%	0.2%	3.7%	74.7%	73.2%	

# AP and Concurrent Credit

ACT	Concurrent Credit	AP Participant	Overall	On Time Bachelor's	OnTime Bach. %
17-18			2438	586	24.0%
17-18		Y	553	189	34.2%
17-18	Y		222	73	32.9%
17-18	Y	Y	54	24	44.4%
19-20			2688	855	31.8%
19-20		Y	1024	434	42.4%
19-20	Y		457	184	40.3%
19-20	Y	Y	158	82	51.9%
21-22			2185	863	39.5%
21-22		Y	1376	683	49.6%
21-22	Y		483	238	49.3%
21-22	Y	Y	228	141	61.8%
23-24			1544	665	43.1%
23-24		Y	1615	931	57.6%
23-24	Y		465	261	56.1%
23-24	Y	Y	292	182	62.3%
25-26			938	471	50.2%
25-26		Y	1618	1013	62.6%
25-26	Y		371	224	60.4%
25-26	Y	Y	338	230	68.0%
27-29			662	365	55.1%
27-29		Y	1843	1285	69.7%
27-29	Y		306	196	64.1%
27-29	Y	Y	377	283	75.1%

# % On Time College Graduate

